REMARKS

At the outset, Applicants wish to thank Patent Examiner A. Salad for the many courtesies extended to the undersigned attorney during the Personal Interview on April 13, 2005. The substance of this Personal Interview is set forth in the Examiner Interview Summary, and in this Amendment.

The amendments to this patent application are as follows. The present Specification was amended on Page 1 in order to correct a minor typographical error relating to the prior application.

The amendments to the claims are as follows. A new independent claim 22 was discussed with the Patent Examiner during the Personal Interview. Previously filed independent claim 12 was cancelled. Each of claims 13 to 21 was amended in order to cancel the phrase "characterized in that" and to replace this phrase with the word "wherein". During the Personal Interview, the Patent Examiner suggested the following preamble for all of the claims: "A network for data transmission comprising a process control". Thus, each of claims 13 to 21 has been amended and now recites this preamble claim language. Also,

newly added claim 22 recites this preamble claim language. In addition, each of claims 13, 14, 15, 16, 17 and 20 has been amended in order to change the dependency from cancelled claim 12 to newly added independent claim 22.

No new matter has been introduced by this Amendment.

The Applicants comment upon the prior art rejection of the claims as follows.

The present invention is directed to a network for data transmission comprising a process control having programmable controllers (3) respectively including a central processing unit (6) and slave processors (7) assigned to said central processing unit, and a network linking said controllers (3) for data transmission via hub switches (1, 1^1) and/or busses provided with several terminals and assigned and/or integrated memory array;

said hub switches (1, 1^1) connecting its terminals in pairs while disconnecting them from all other terminals and/or temporarily storing data packets forwarded via the terminals separately and forwarding them to the respectively addressed terminal only when said terminal is available and/or can be made available for data reception;

said busses linking together access control units (11) which are controlled by a transmission authority control (12) and via which the respective bus receives data from interface modules (5) linked to the busses;

said controllers being respectively assigned to one of said hub switches and/or busses;

said hub switch and/or bus having separate terminals for the central processing unit (6) and the slave processors (7) of the assigned controller (3), thereby enabling each slave processor of a respective controller (3) for exchanging data with an arbitrary controller or a module (5) thereof while circumventing its assigned central processor unit (6).

Generally speaking, the present invention relates to a process control, i.e. for processes or techniques. In this field of process control, it is known to use a multitude of controllers for controlling respective parts of the industrial process or technique. Each controller comprises a central processor unit and several slave processors. In process controls of the prior art, the slave processors of a controller are exclusively linked to the central processor unit of the said controller. This means that there is a dominant hierarchy; and the slave processors are restricted to jobs requested by the assigned central processor

unit. Now let there be two controllers in cooperation. In the prior art only the central processor units of the two controllers can cooperate directly. If the central processor unit of one of the controllers needs data which are or can be provided by a slave processor of the other controller, then the said central processor unit of one controller must "ask" its counterpart central processor unit in the other controller. Then the counterpart must sooner or later interrupt its job for assisting the first central processor unit and provide data from one of its slave processors.

Contrary to this prior art teaching, the present invention does not use such a hierarchical concept. According to the present invention, the slave processors of the controllers are arranged in a network which allows circumventing the central processors units. The slave processors mainly assist the central processor unit of their respective controller, but they are not restricted to such job. They are allowed to cooperate with every one of the central processor units. This means that every central processor unit has a direct access to any one of the slave processors, and the original assignment by which the slave processors are related to their respective central processors units in the controller can be changed at any time.

A further feature of the present invention is the kind of the hub switches and the busses. According to the features recited in the new independent claim 22, the hub switches and the busses prevent any collisions between data packets transferred in the network. This enhances the cooperation between the central processor units and any desired slave processor.

The cited prior art *U.S. Witkowski et al. Patent No. 6,098,110* is related to normal data processing rather than to process controls. (See column 1, lines 40 to 56, and especially lines 50 to 56). As can be seen from column 5, lines 26 to 28 and 49 to 51, different kinds of data networks ("A" networks and "B" networks) are to be linked together. In this field you typically do not have hierarchical structures like in the field of process controls. So you do not find "slaves" disclosed in said reference. The central processor unit 230 has on the one hand some jobs in relation to initialization and configuration of other modules (see Column 8, lines 1 and 2). On the other hand, and this is more important, the central processor unit 230 is used as an additional port for data sources or nets (see Column 8, lines 13 to 15). This means that unit 230 has the function of an interface between different kinds of networks.

The main purpose of the *Witkowski* reference is to provide a "bridge" between technically different networks which are not compatible for direct connection (see Abstract). The configuration of this bridge is such that collisions between data packets transferred via lines of this bridge can be prevented. The configuration of the bridge is such, that there are some parallel ways for linking the networks.

Witkowski teaches no specified ideas for changing traditional hierarchical concepts of process controls and to provide the possibility of a central processor unit to have free access to any one of the slave processors independent of their original assignment to specific central processor units. In a comparison between the present invention and *Witkowski et al.*, the controllers of the claimed invention could be seen as "networks" constituted by a central processor unit and slave processors. From this point of view the controllers are analogous to the networks ("A" and "B" networks) of *Witkowski et al.* But *Witkowski et al.* only refers to a specific "bridge" between these networks/controllers, while *Witkowski et al.* does not specifically refer to a direct data transfer between a part of one network (here: a slave processor of one controller) and a

part of another network (here: a central processor unit of a second controller).

During the Personal Interview, it was pointed out that this new claim 22 recites several structural features of the claimed invention that are not shown, taught or suggested by *Witkowski, U.S. Patent No. 6,098,110.* During the Personal Interview, it was noted that structural features such as the programmable controller (3), the hub switches (1, 1'), the interface module (5), among others, were features of the present invention that are not disclosed by the *Witkowski* reference.

For all these reasons set forth above, this one prior art reference fails to provide an identical disclosure of the claimed invention. Hence, the present invention is not anticipated under 35 U.S.C. 102. Withdrawal of this ground of rejection is respectfully requested.

In summary, claim 12 has been cancelled, claim 22 has been added, and claims 13 to 21 have been amended. In view of these amendments, it is firmly believed that the present invention, and all the claims, are patentable under 35 U.S.C. 103 over the prior art cited by the Patent Examiner. A prompt notification of

allowability is respectfully requested.

Respectfully submitted,
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Enclosure: Copy of Petition for Two Month Extension of Time

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 12, 2005.

Melissa Konko